

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) ~~The permanent magnet electrical machine as defined in Claim 2, A permanent magnet electrical machine used as a motor or as a generator, comprising:~~

a movable member having a permanent magnet; and

a stator having a coil which generates an alternating magnetic field to drive the movable member, the alternating magnetic field applying a repulsive force on the permanent magnet,

wherein the permanent magnet is divided with one or more substantially flat faces into a plurality of sections in order to suppress the flow of an eddy current generated by high frequency components in the alternating magnetic field, said one or more substantially flat faces being substantially perpendicular to the direction of motion of the permanent magnet, and

wherein the width of each of the plurality of sections section of the permanent magnet is set to decrease as the with an increase in the rate of change in the flux density in that section increases applied to each of the plurality of sections during fixed-speed operation of the movable member.

4. (Currently Amended) ~~The permanent magnet electrical machine as defined in Claim 2, A permanent magnet electrical machine used as a motor or as a generator, comprising:~~

a movable member having a permanent magnet; and

a stator having a coil which generates an alternating magnetic field to drive the movable member, the alternating magnetic field applying a repulsive force on the permanent magnet,

wherein the permanent magnet is divided with one or more substantially flat faces into a plurality of sections in order to suppress the flow of an eddy current generated by high frequency components in the alternating magnetic field, said one or more substantially flat faces being substantially perpendicular to the direction of motion of the permanent magnet, and

wherein the width of each of the plurality of sections section of the permanent magnet is set so that eddy current loss in each of the plurality of sections section of the permanent magnet is substantially equal.

5. (Cancelled)

6. (Currently Amended) ~~The permanent magnet electrical machine as defined in Claim 1, A permanent magnet electrical machine used as a motor or as a generator, comprising:~~

a rotating element having a permanent magnet; and

a stator having a coil which generates an alternating magnetic field to drive the movable member, the alternating magnetic field applying a repulsive force on the permanent magnet,

wherein the movable member is a rotating element, and the permanent magnet is divided into a plurality of sections with respect to the direction of rotation of the rotating element in order to suppress the flow of eddy current generated by high frequency components in the alternating magnetic field, the width of the section placed on the leading a leading edge in the direction of rotation of the rotating element are more being more narrow than the width of other sections.

7. (Original) The permanent magnet electrical machine as defined in Claim 6, wherein the permanent magnet is divided into a plurality of portions in a radial direction of the rotating element, and at least the portion of the magnet nearest the stator is divided with respect to the direction of rotation of the rotating element.

8. (Currently Amended) ~~The permanent magnet electrical machine as defined in Claim 1, A permanent magnet electrical machine used as a motor or as a generator, comprising:~~

a rotating element having a permanent magnet; and
a stator having a coil which generates an alternating magnetic field to drive the movable member, the alternating magnetic field applying a repulsive force on the permanent magnet,

~~wherein the movable member is a rotating element, and the permanent magnet is divided into a plurality of sections with respect to the direction of rotation of the rotating element in order to suppress the flow of an eddy current generated by high frequency components in the alternating magnetic field, and the section of the permanent magnet positioned on the leading edge is of where a rate of change in the flux density is larger than that in other sections has a width that increases towards an outer peripheral side of the rotating element in order to reduce the loop of eddy current in the section of the permanent magnet positioned on the leading edge.~~

9. (New) The permanent magnet electrical machine as defined in Claim 8, wherein the section of the permanent magnet positioned on the leading edge has a trapezoidal cross-section perpendicular to a rotation axis direction of the rotating element.

REMARKS

Claims 1 to 8 were pending in the application. Claims 1, 2 and 5 have been cancelled without prejudice or disclaimer. Claims 3, 4, 6 and 8 have been amended. Claim 9 has been added. No new matter has been introduced. Thus, claims 3, 4 and 6 to 9 are submitted for reconsideration at this time.

Allowable Subject Matter

Applicants acknowledge with appreciation the indication of allowable subject matter in claims 3, 4, 6 and 7. Applicants have rewritten claims 3, 4 and 6 to be in independent form. Thus, claims 3, 4 and 6 are now considered to be in condition for allowance. Claim 7 is dependent upon allowable claim 6, and is also now considered to be in condition for allowance. Allowance of claims 3, 4, 6 and 7 is solicited.

Rejections Under 35 U.S.C. §112, ¶2

Claim 1 stands rejected under 35 U.S.C. §112, ¶2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claim 1 has been cancelled without prejudice or disclaimer. Thus, this rejection is now considered to be moot. Withdrawal of the rejection under 35 U.S.C. §112, ¶2 is solicited.

Rejections Under 35 U.S.C. §102(e)

Claims 1, 2, 5 and 8 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,359,359 to Miura ("Miura" hereafter). Claims 1, 2 and 5 have been cancelled without prejudice or disclaimer. Applicants respectfully traverse the rejection of claim 8 for at least the following reasons.

According to at least one embodiment of the present invention as recited in claim 8 (as amended), in order to reduce the loop of eddy current in the section of the permanent magnet positioned on the leading edge, the section of the permanent magnet positioned on the leading edge where the rate of change in the flux density is larger than that in other sections has a width that increases towards an outer peripheral side of the rotating element (e.g., rotor 2). By way of example, this section of the permanent magnet may have a trapezoidal cross-section or the like, as recited in newly added claim 9. Applicants direct the Examiner's attention to FIGs. 4, 5 and 7, and the description in paragraphs [0033] to [0037] of the as-filed specification, which sets forth this embodiment in greater detail.

Miura fails to disclose or suggest the structure and/or benefits thereof as recited in amended claim 8. More specifically, Miura employs a ferrite magnet 14a in order to reduce eddy currents, which have an electric resistance 105-106 times larger than a rare-earth magnet (see col. 4, lines 54 to 56). However, Miura fails to disclose permanent magnets 14a to 14c in Miura with the claimed width relationship. Thus, Miura fails to anticipate the presently claimed invention. Withdrawal of the rejection under 35 U.S.C. §102(e) is solicited.

New Claim 9

New claim 9 has been added to more fully recite features of the present invention. Support for new claim 9 can be found, for example, in paragraph [0036] of the as-filed specification. New claim 9 is dependent upon claim 8, and is considered to be allowable for at least the aforementioned reasons with respect to claim 8, in addition to the further patentable features recited therein. Allowance of claim 9 is solicited.

Conclusion

Applicants believe that the present application is now in condition for allowance.
Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

By D.L.G.

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